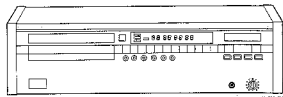


Marantz

Compact disc player 74CD80/02B/04B/05B

75CD80/06B

Service
Service
Service



Service Manual

COMPACT
disc
DIGITAL AUDIO

TABLE OF CONTENTS

- 1 Marantz design and service
Technical Data, ESD warning
Operation
Service hints
- 2 Exploded views
Partslists mechanical components
- 3 Faultfinding
- 4 Wiring diagram
Circuit diagrams
Printed boards
Partslist electrical components.

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

CLASS 1
LASER PRODUCT

3195 R10 02426

Documentation Technique Service Dokumentation Documentazione di Servizio Huolto-Ohje Manual de Servicio Manual de Servicio

Subject to modification

4822 725 22428

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Service Consumer Electronics

CS 23 119

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound.

Only original MARANTZ parts can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS:

Parts can be ordered either by mail or by telex. In both cases, correct part number has to be specified. The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

PARTS ORDERING

Parts may be ordered at the following addresses:

AUSTRIA HORNYPHON Vertriebsgesellschaft GmbH Wienbergstrasse 1 A 1101 Wien Austria Telex: 132.332	FINLAND MARANTZ DIVISION OF OY PHILIPS Ab Käivokuu 8 00100 Helsinki Finland Telex: 124811	GREAT BRITAIN MARANTZ AUDIO U.K. Ltd Unit 15/16 Saxon Way Industrial Estate Moor Lane Harmondsworth UB7 0LW Great Britain Telex: 935196	SAUDI ARABIA AL ALAMIAH ELECTRONICS P.O. Box 5954 University Street Riyadh 11432 Saudi Arabia Telex: 401530	SWITZERLAND DYNAXOX ELECTRONICS Route de Villars 105 1701 Fribourg Switzerland Telex: 942377
BELGIUM SVD DIVISION MARANTZ Industrialaan 1 1720 Groot-Bijgaarden Belgium Telex: 24468	FRANCE MARANTZ FRANCE 4 Rue Bernard Palissy 92600 Asnières France Telex: 611651	GREECE SHERTON ELECTRONICS S.A. P.O. Box 21025 Hippocrates Street 188 Athens 11471 Greece Telex: 216.795	SOUTH AFRICA MARANTZ DIVISION OF PHILIPS S.A. Main Road Martindale P.O. Box 58088 Newville 21114 South Africa	TURKEY DOGRUOL Ltd. I.M.C. 6 Blok N°6310 Unkapani Istanbul Turkey Telex: 22085
CHILE MARANTZ DIVISION OF PHILIPS S.A. AV. Santa Maria, 0750 Casilla 2687 Santiago Telex: 240.239	GERMANY MARANTZ GERMANY GmbH Max-Planck-Strasse 22 6072 Dreieich 1 Germany Telex: 529821	JAPAN MARANTZ JAPAN, Inc. 35-1, 7-chome, Sagami-cho Sagami-hara-shi, Kanagawa Japan	SPAIN PHONO S.A. Ignacio Iglesias 10 Badelona (Barcelona) Spain Telex: 59355	MALTA CACHIA & GALEA Republic Street, 68D Valett Telex: 1682
DENMARK MARANTZ DIVISION OF PHILIPS SERVICE A/S Prags Boulevard 80 Postbox 1919 DK-2300 København S Denmark Telex: 31201	THE NETHERLANDS Elpro Marantz Wint Hortaan 28 3526 KV Utrecht The Netherlands Telex: 4748	KUWAIT AL ALAMIAH ELECTRONICS Jesam Building Fahd al Saleem Street P.O. Box 23781 Safat-Kuwait Telex: 22594	SWEDEN MARANTZ DIVISION OF PHILIPS Försäljning AB Tegeluddsvägen 1 S-115 84 Stockholm Sweden Telex: 14060	PORTUGAL MARANTZ Divisao Philips S.A. service Ottaviano-carnaxida 2795 Linda-A-Velha Telex: 43906
	NORWAY MARANTZ DIVISION OF PHILIPS A/S Sandstuveien 40 0580 Oslo 6 Norway Telex: 72640	ITALY MARANTZ ITALIANA S.P.A. Via Chiese, 74 20125 Milano Italy		

MARANTZ INTERNATIONAL

Vestdijk 9
5600 MD Eindhoven
The Netherlands
Phone: +31/40.758290
Telefax: +31/40.75.82.99
Telex: 35000 PHTC NL routing IND NLMTFAT

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

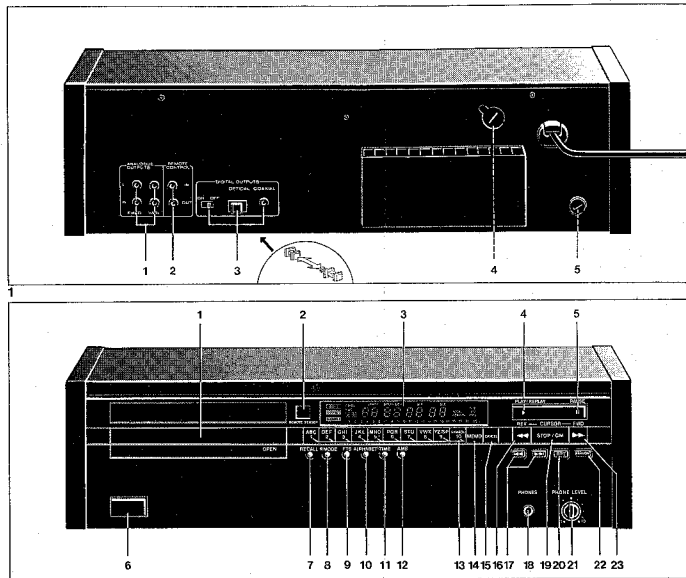
In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

TECHNICAL DATA

Disc diameter	: 80 mm/120 mm
Mains voltage /01	: 110 V, 127 V, 220 V $\pm$ 10% (to be changed by carousel switch)
/02/05	: 110 V, 127 V, 220 V, 240 V, $\pm$ 10% (to be changed by transformer connections)
/04	: 100 V $\pm$ 10 %
/06	: 117 V $\pm$ 10 %
Mains frequencies	: 50, 60 Hz (no adaptations required)
Power consumption	: 30 W
Frequency range	: 5 Hz + 20 kHz
Amplitude linearity	: max $\pm$ 0,05 dB ¹⁾ typical $\pm$ 0,01 dB
Output voltage fixed	: 2 V rms $\pm$ 2 dB ¹⁾
Output impedance	: 200 Ω
Signal to noise ratio	: min. 95 dB typical 103 dB
Channel separation	: min. 93 dB ¹⁾ typical 100 dB
Channel difference	: $\pm$ 0.2 dB ¹⁾
Total harmonic distortion	: min -90 dB ²⁾ typical -92 dB
De-emphasis	: 0 or 15/50 μ s (switched by the subcode on the disc)
Dimensions WxDxH	: 454x136x363 mm (tray closed)
Weight	: 15 kg
Variable line out	: motorized potentiometer controlled by remote control

¹⁾ into 100 k Ω // 100 pF²⁾ from 5 Hz + 20 kHz into 100 k Ω // 100 pF

OPERATION



44 749 A11

⚠ WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

ESD



ⓘ ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement raccourcie par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enlever le bracelet sorti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

ⓘ WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unvorsichtige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Verlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

⚠ WAARSCHUWING

Alle IC's en vele andere halgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

ⓘ AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cautela alla loro manipolazione.
Durante la riparazione occorre quindi essere collegati allo stesso potenziale che quello della massa dell'apparecchio tramite un bracciale a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

Connections

- 1 Analogue outputs
- 2 Remote control in/out
- 3 Digital outputs
- 4 Mains fuse holder
- 5 Voltage selector

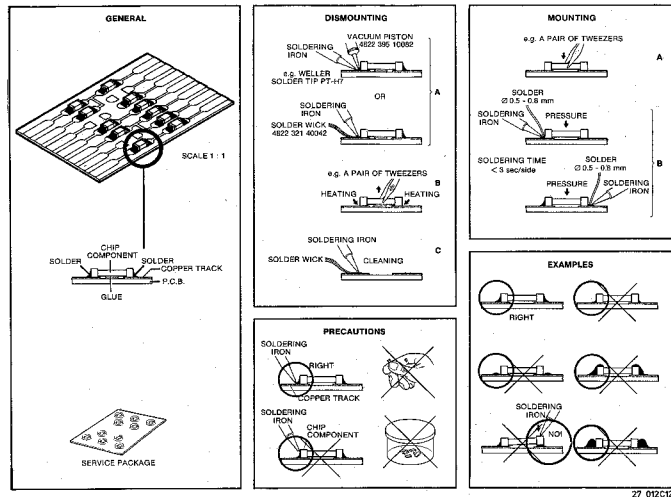
Operation

- 1 Open
- 2 Remote sensor
- 3 Display
- 4 Play/Replay
- 5 Pause
- 6 On/off
- 7 Recall
- 8 Program mode
- 9 FTS

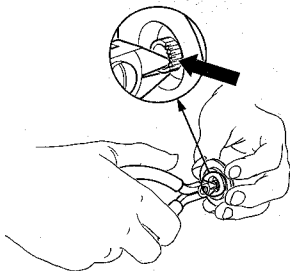
- 10 Alphab
- 11 Time
- 12 Automatic Music Scan
- 13 Figure/Alphabet
- 14 Memo
- 15 Cancel
- 16 ⏮ Rev cursor
- 17 ⏮ Track selecting
- 18 Phones
- 19 Stop/CM
- 20 Repeat
- 21 Phone level
- 22 Random
- 23 Cursor FWD ⏭

SERVICE HINTS

In the set chip components have been applied.
For disassembly and assembly see figure below.



The disc should always rest properly on the turntable.
To achieve this a disc hold-down has been mounted in a bracket of the tray mechanism.
If the tray mechanism has to be disassembled for servicing, a separate service disc hold-down should be used.



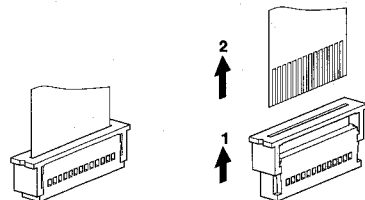
42 565 A12

- A service disc hold-down can be composed in the following way.
- Cut in the most inner ring of a disc hold-down (4822 462 50383) with small and sharp nippers, see fig. below.
 - Enlarge the diameter of the innermost ring slightly with the hind part of a pencil or ballpoint, so that it jams onto the turntable with sufficient force.
 - If the jamming force decreases after certain time of use, the diameter has to be enlarged with a pencil or ballpoint again.

SERVICE TOOLS

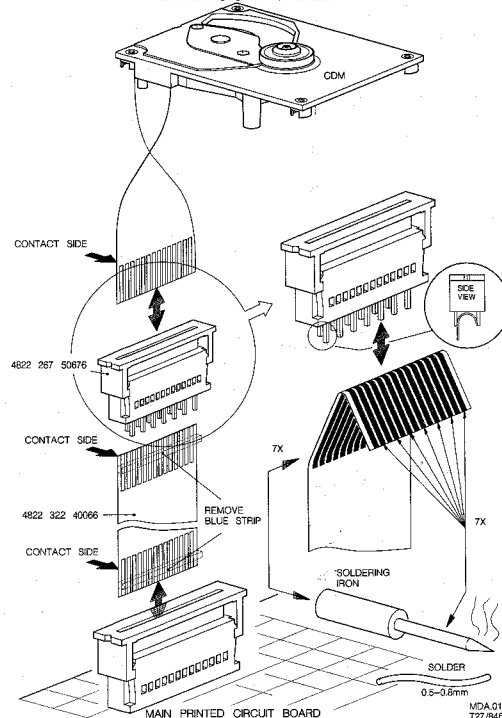
- 4822 395 90204 GLASS DISC
4822 397 30096 AUDIO TEST DISC 5+5A
4822 397 30155 AUDIO TEST DISC 1kHz
4822 397 30184 AUDIO SIGNALS DISC
4822 397 60141 AUDIO TEST MAX DIAM
4822 267 50676 SERVICE CONN (14P)
4822 322 40066 SERVICE CABLE (14P)
4822 321 21294 SERVICE CABLE (4P)
4822 395 50145 TORX SCREWDRIVER SET
4822 395 50132 TORX SCREW SQUARE
4822 395 30204 13TH ORDER TER
5322 130 32182 LED GREEN CQYG11

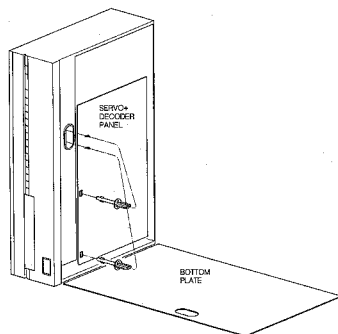
1-3 1-3



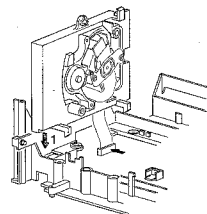
MDA 01408
128/622

EXTENSION CABLE

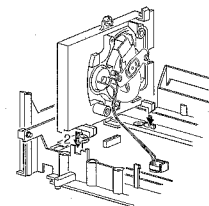


MEASURING AND ADJUSTMENT POSITION
OF THE SETMDA 02133
9/6/719

FOIL CONNECTION POSITION.

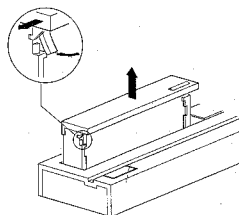


FLAY-SERVICE POSITION

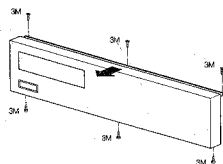
EVA 00848
9/6/719

CABINET DISASSEMBLY HINTS

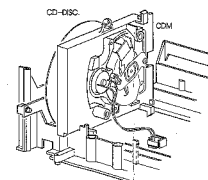
A

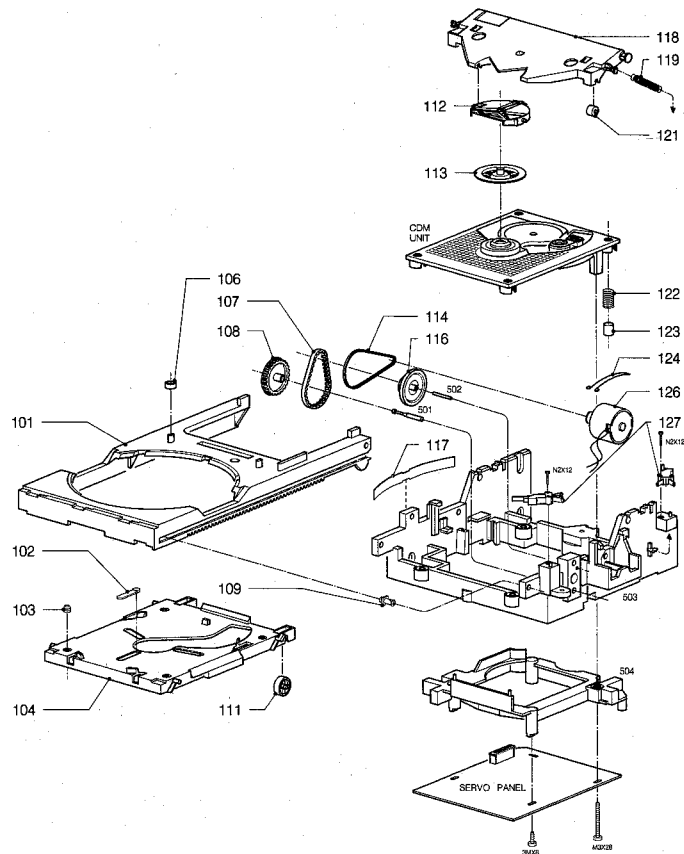


B

MDA 02137
9/6/719

SERVICE POSITION PLAY

EVA 00849
9/6/719



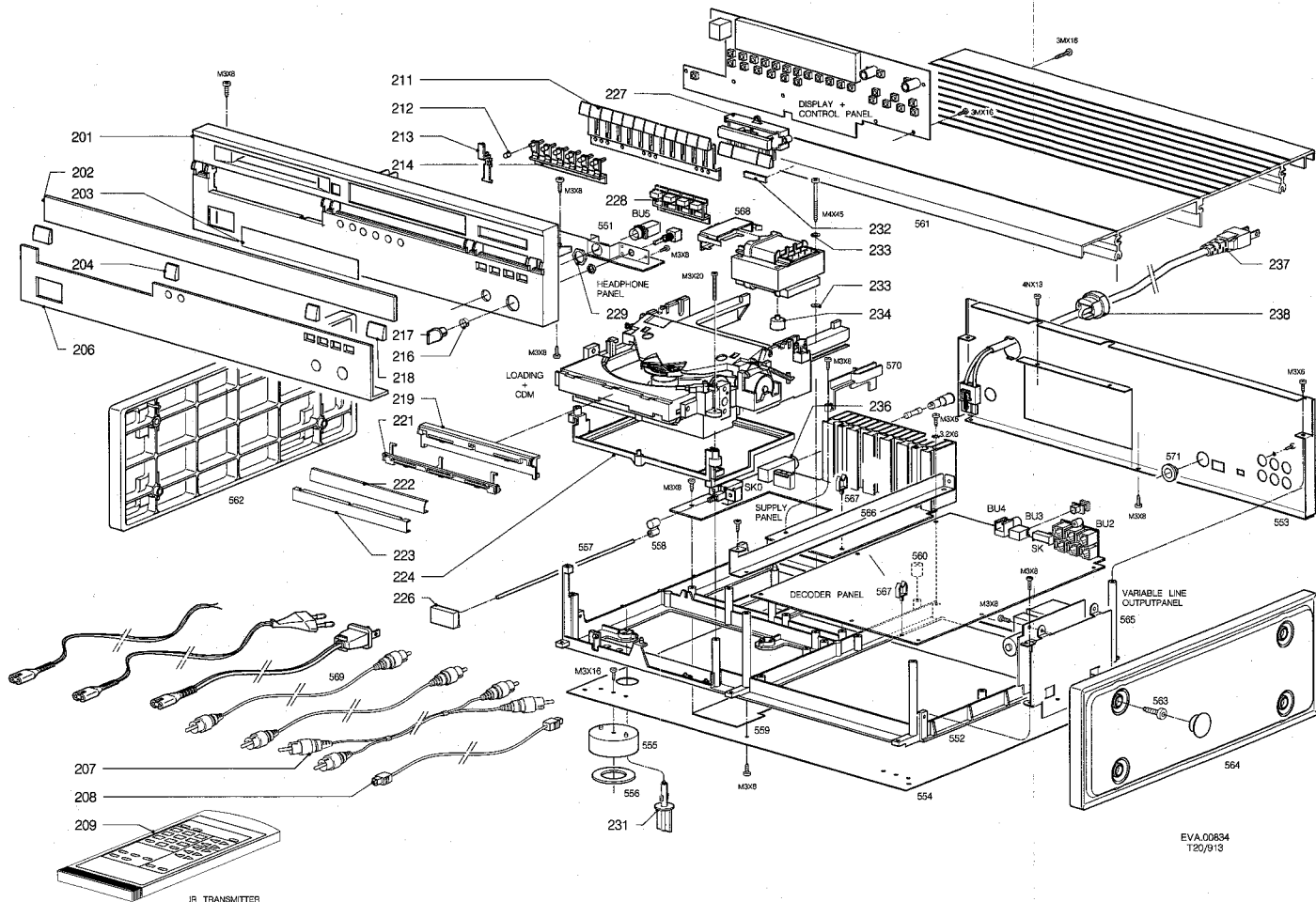
PARTS LIST TRAY MECHANISM

101	4822 444 50582
102	4822 325 60317
103	4822 325 60317
104	4822 444 50607
106	4822 532 51756
107	4822 358 20262
108	4822 522 32271
109	4822 402 61081
111	4822 528 90638
112	4822 532 11547
113	4822 462 50383
114	4822 358 20116
116	4822 528 81146
117	4822 492 63659
118	4822 444 60467
119	4822 492 32687
120	4822 691 20449
121	4822 528 90639
122	4822 492 51984
123	4822 325 60318
124	4822 492 63746
126	4822 361 20998
127	4822 276 11277
	4822 361 21115

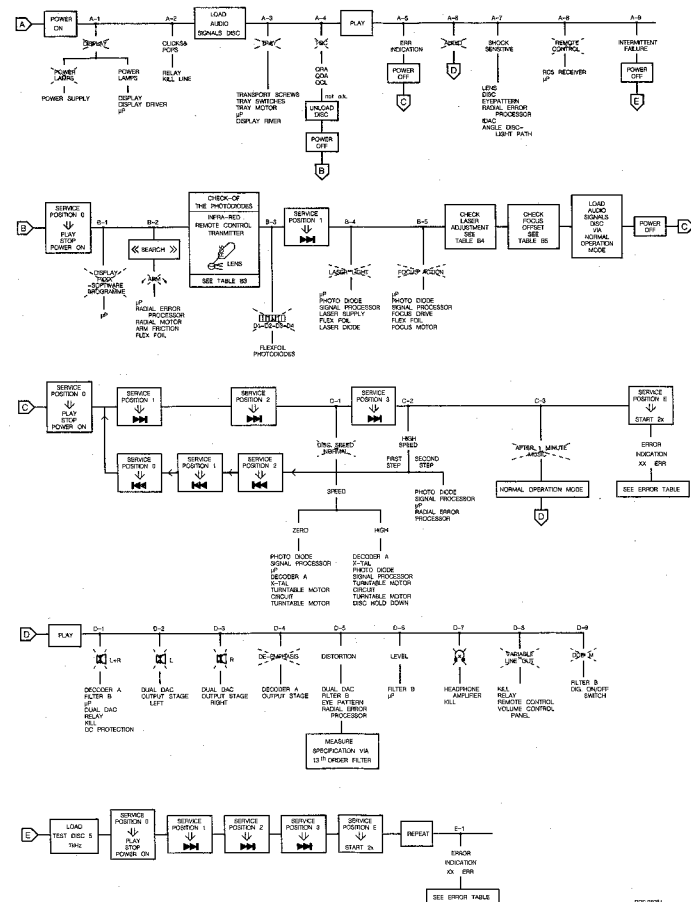
TURNTABLE MOTOR

PARTLIST CABINET

201	4822 444 40309	
202	4822 450 61361	/02B/04B/05B
	4822 450 62445	/06B
203	4822 450 61362	
204	4822 460 20768	/02B/04B/05B
	4822 460 20771	/06B
206	4822 460 20765	/02B/04B/05B
	4822 460 20777	/06B
207	4822 321 23116	
208	4822 323 20182	
209	4822 218 10274	
211	4822 410 60332	/02B/05B
	4822 410 60117	/04B
	4822 410 60306	/06B
212	4822 410 50169	
213	4822 402 50277	
214	4822 410 60118	
216	4822 492 61974	
217	4822 410 60119	
218	4822 460 20769	/02B/04B/05B
	4822 460 20772	/06B
219	4822 402 61266	/02B/05B
	4822 402 61254	/04B
	4822 402 61303	/06B
221	4822 464 50784	/02B/04B/05B
	4822 464 50773	/06B
222	4822 460 20783	
223	4822 460 20766	
224	4822 466 92338	
226	4822 410 60121	
227	4822 276 30404	/02B/05B
	4822 276 30403	/06B
	4822 276 60304	/06B
228	4822 410 60116	/02B/04B/05B
	4822 410 60303	/06B
229	4822 505 10571	
231	4822 535 92907	
232	4822 459 10747	/02B/04B/05B
	4822 459 10887	/06B
233	4822 532 51504	
234	4822 466 61641	
236	4822 256 30402	
237	4822 321 10642	/02B/05B
	4822 321 10623	/04B
	4822 321 10639	/06B
238	4822 325 60329	
553	4822 444 60631	/02B/04B/05B
	4822 444 60648	/06B
	4822 600 10297	EPS CUSHION BELOW
	4822 600 10298	EPS CUSHION ABOVE
	4822 600 10299	A-BOX MARANTZ



TROUBLE SHOOTING



Working with the faultfinding tree

Follow the path of the faultfinding tree beginning at the top left. Perform the actions you come across in the various blocks. Look at the various side branches to find out if the information you see there applies to your problem. If, for instance, you find the indication this means that no picture appears on the display.

If you establish this fault, follow the branch and perform the recommended actions. Check the signals mentioned. In a number of branches further reference is made to measurements you could carry out. These measurements are explained in several tables further on in this manual.

B-3 CHECK OF THE PHOTODIODES

Step	Signal	Mode					Remarks
1	D2 D1 D3 D4	power on					Signal depends on Distance lens ↔ IR LED of remote control

T-22407A

B-4 CHECK OF LASER SUPPLY

The supply plus the monitor diode form a feedback system.

A defect in the lasersupply may result in the destruction of the laser. If, in that case, the laser is replaced, (= complete D.C.M.-unit) the new laser will also become defective. However, it is impossible to check and repair a feedback system if a link is missing. For this reason the laser supply can be checked with the replacement circuit assembly.

Step	Signal	Mode				Remarks
1	LO LM	serv. pos. 2 SK				1.8V < V < 2.3 170 < mV < 220 PR905539
2	LO LM	serv. pos. 2 SK				1.8V < V < 2.3 170 < mV < 220 PR905540
3	LO	Power on				0V ± 0.2V No light

T-22407B

B-4 LASER CURRENT ADJUSTMENT

Step	Signal	Mode					Remarks
1	-	Power off			R3120	1kΩ	Pre-adjustment Ohmic value
2	Eye-pattern HF	Power on Test disc 5 play			-	-	Eye pattern
3	-	Test disc 5 play track 1			R3120	50 mV DC	fine adjustment

T-22428A

PR905539/127/922

B-5

ADJUSTMENT OF FOCUS-OFFSET

Step	Signal	Mode					Remarks
1	—	Power on	—	R3169	—	—	adjust for optical mid-position of the focus motor
2	FE LAG	Play Test disc 5 Track 1	27	R3169	400mV $\pm$ 40 mV DC	—	fine adjustment

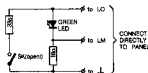
T-224286

ERROR TABLE

Errors indicated in display when player is set in playmode in service position 3:

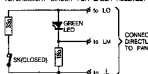
02 Err	Focus error	No track loss
03 Err	Radial start error	Minimum eccentricity point not found
06 Err	TL error during jump	No positive TL or RD edge during 60x8 ms
07 Err	Subcode error	No valid subcode within 3 sec.
08 Err	TOC error	Out of lead-in while reading TOC
09 Err	Eeprom cell error	Eeprom cell broken

REPLACEMENT CIRCUIT FOR LASER ASSEMBLY



THE LED EMITS LITTLE LIGHT
LED GREEN e.g. C012M S322 130 3012
PWS.05040
T25/045

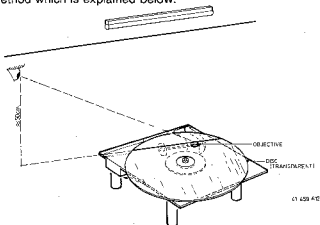
REPLACEMENT CIRCUIT FOR LASER ASSEMBLY



The feedback system uses a diode that the same amount of current flows through the LED. When SW is open and when SW is closed the LED emits little light.
PWS.05040
T25/045

Checking the angle setting

The angle setting can be checked with the glass-disc method which is explained below.



G1 425 A12

Put glass disc 4822 395 90204 on the turntable. Make sure that the glass disc beds down well on the turntable.

Place the CD mechanism under a light source, under which there is a straight line (e.g. under a fluorescent tube with grid).

Set the arm to mid-position of its radial track.

Turn the mechanism until the arm is parallel to the line under the light source (see figure below).

Look into the direction and in the extension of the line to the reflection there of on the glass disc and in the objective.

Locate the CDM in such a way that the line reflected by the glass disc runs across the centre of the objective.

The line reflected by the objective should fall just within the surface of the objective. If this is the case, the two lines are not more than 4 mm apart and squareness is correct.

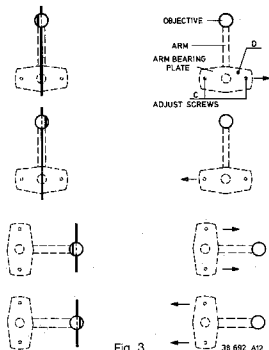


Fig. 3

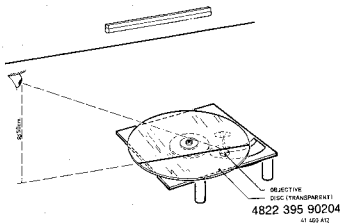


Fig. 6

Turn the CD mechanism through 90° relative to the previous position. The arm must be kept in mid-position (see figure above).

Repeat the previous check.

Adjusting the angle setting

For adjusting the angle setting one or both of the two locking knobs for the bearing plate on pos. 51 must be taken out.

If a check on the angle setting shows that the angle falls outside the tolerance, the angle should NOT be adjusted for minimum deviation, but it should be adjusted within the tolerance.

The new setting should lie between the old setting and the optimum setting. After adjusting the setting, the friction of the arm must be checked. This is done by means of a spring pressure gauge which is held against the magnet of the focusing unit.

The friction of the arm, measured over the entire meter reading, should not be greater than 25 mN.

When the friction appears to be too high, the RAFOC unit must be replaced and the angle between disc and light path adjusted.

The lock is adjusted as follows:

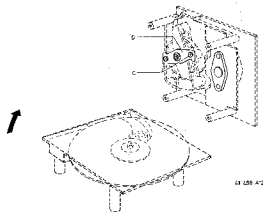
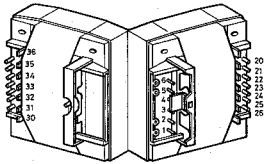


Fig. 7

Loosen screws C (see figure above) until bearing plate D can be displaced. Correct the angle setting by moving the bearing plate into the direction shown in figure below. Tighten screws C, ensuring that the setting does not drift. Then double check the setting in two directions.

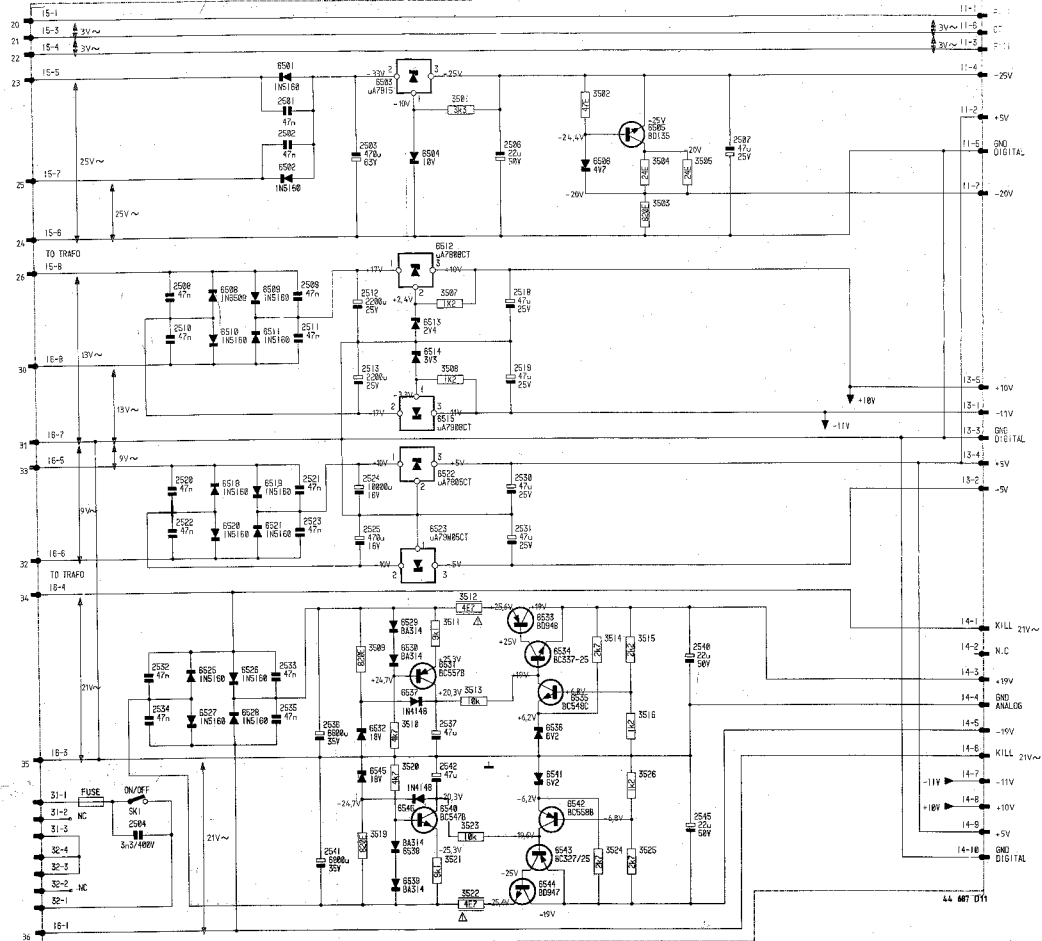
SUPPLY PANEL

TRANSFORMER CONNECTIONS

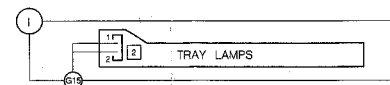
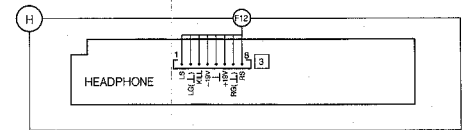
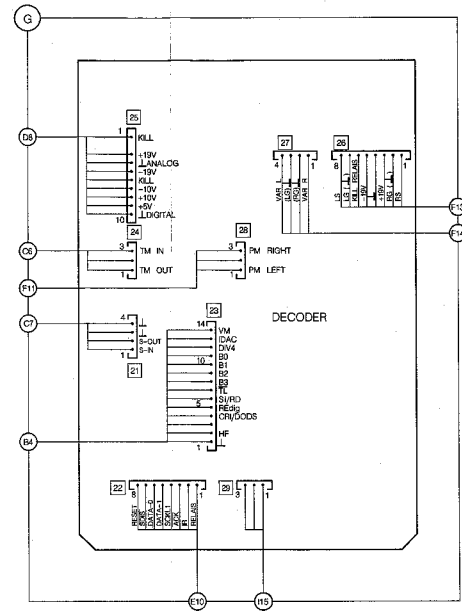
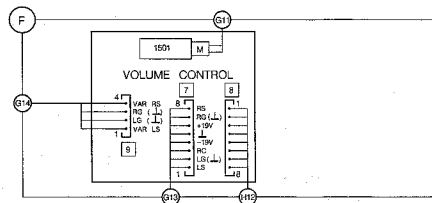
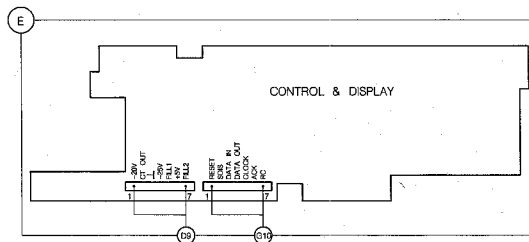
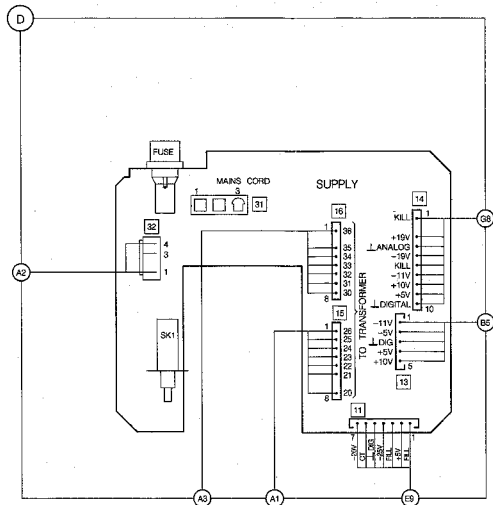
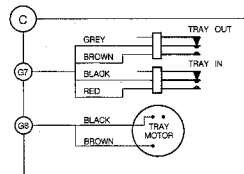
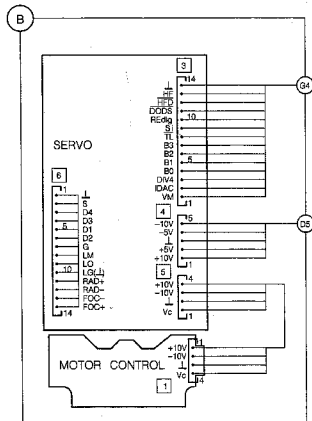
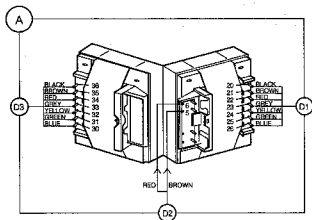


44 704 A11

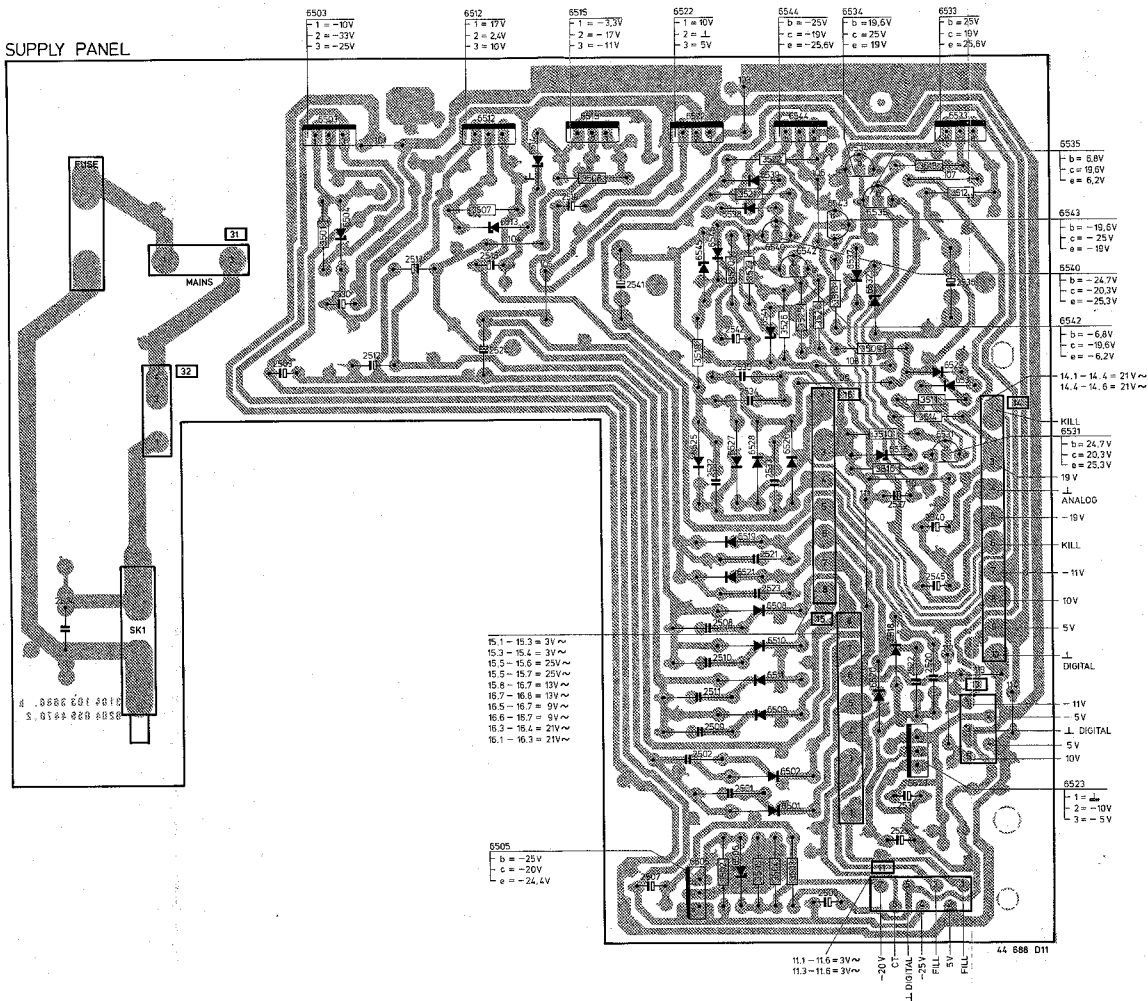
TRANSFORMER CONNECTIONS

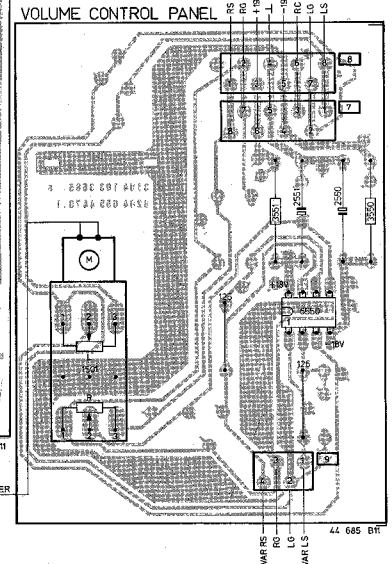
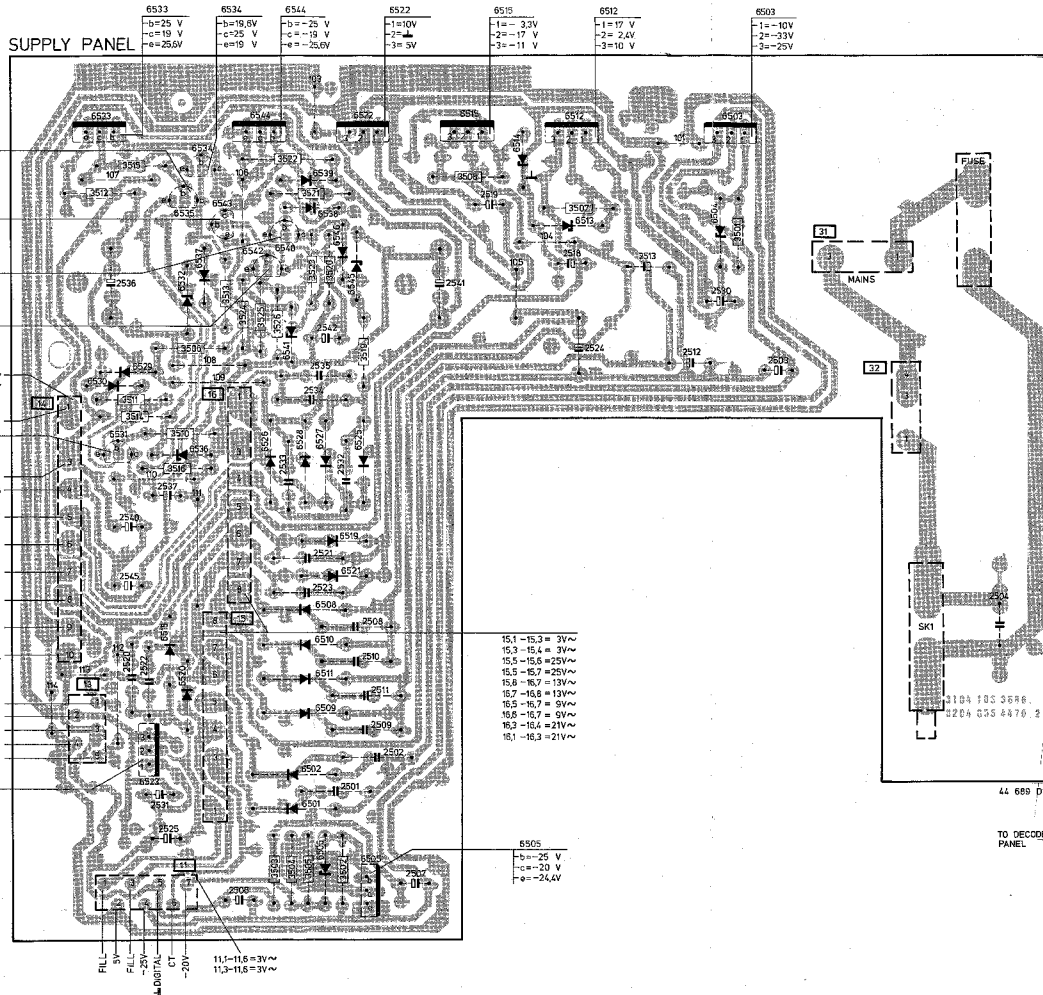


44 687 011

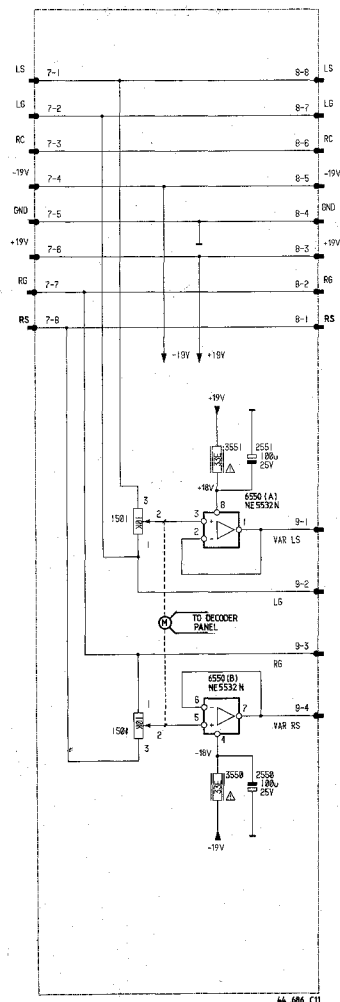
MO-10709
752-318

SUPPLY PANEL



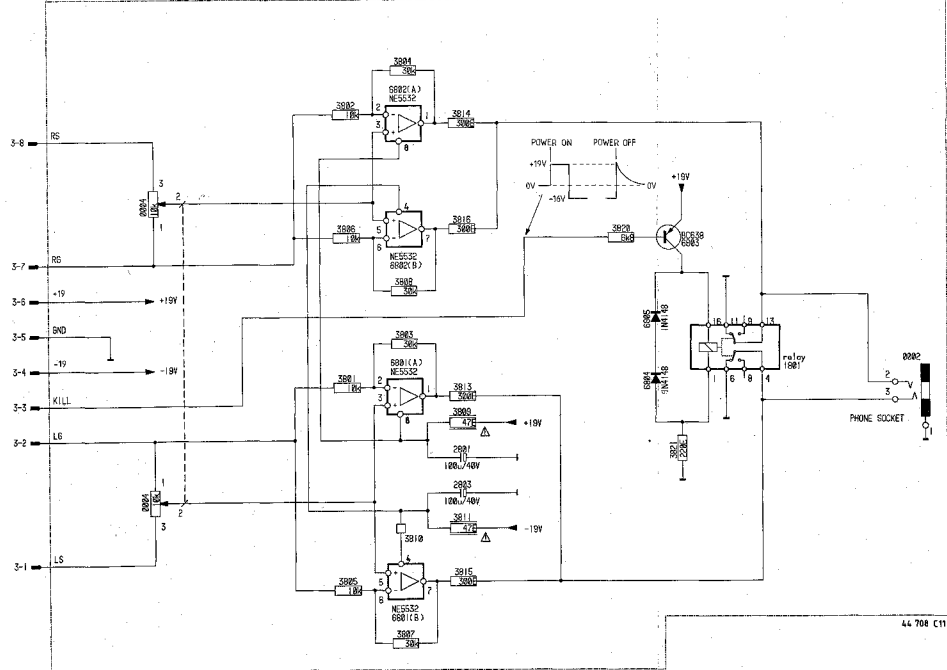


VOLUME CONTROL PANEL



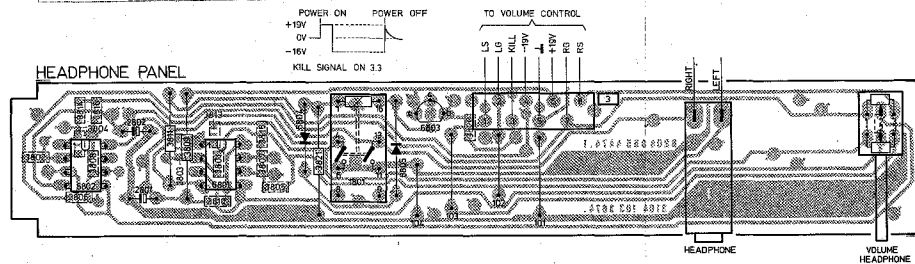
44 686 C11

HEADPHONE



44 708 C11

HEADPHONE PANEL



44 694 C11

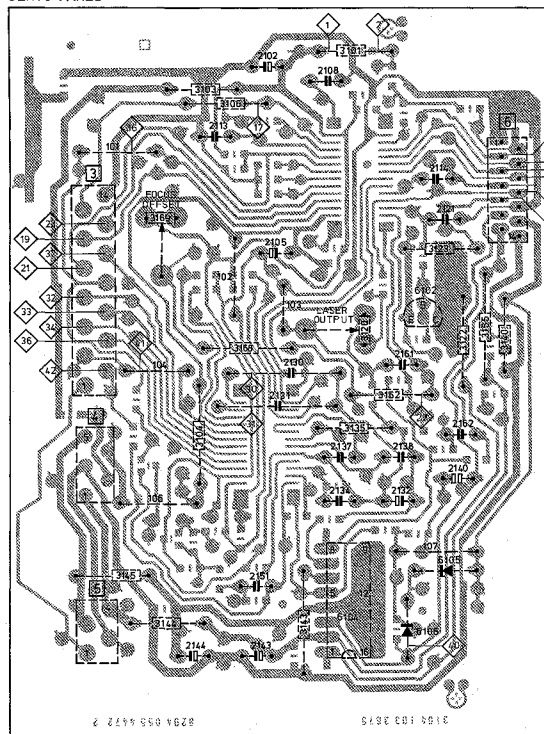


SERVO PANEL

- 3
- 14 = $\uparrow$
 - 13 = HF
 - 12 = HF0
 - 11 = D005
 - 10 = RE d/g
 - 9 = SC/dg
 - 8 = TL
 - 7 = B3
 - 6 = B2
 - 5 = B1
 - 4 = B0
 - 3 = DIV 4
 - 2 = IDAC
 - 1 = VM

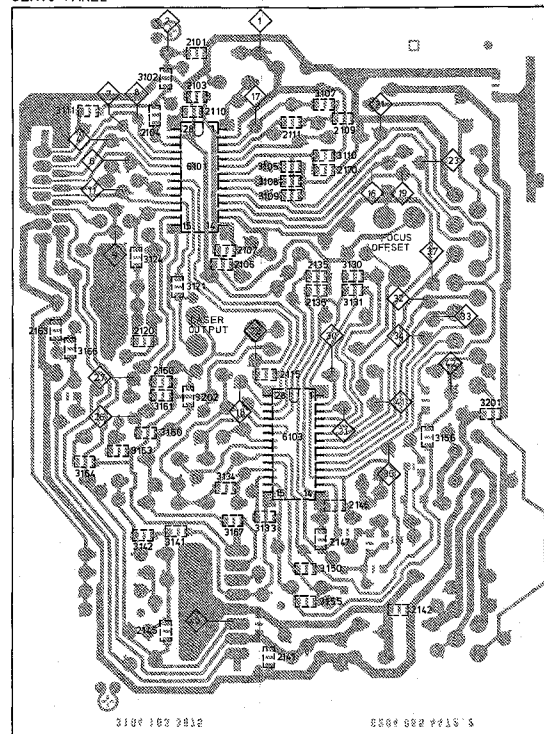
- 4
- 5 = -10V
 - 4 = -5V
 - 3 = $\uparrow$
 - 2 = +5V
 - 1 = +10V

- 5
- 4 = +10V
 - 3 = -10V
 - 2 = $\uparrow$
 - 1 = VC

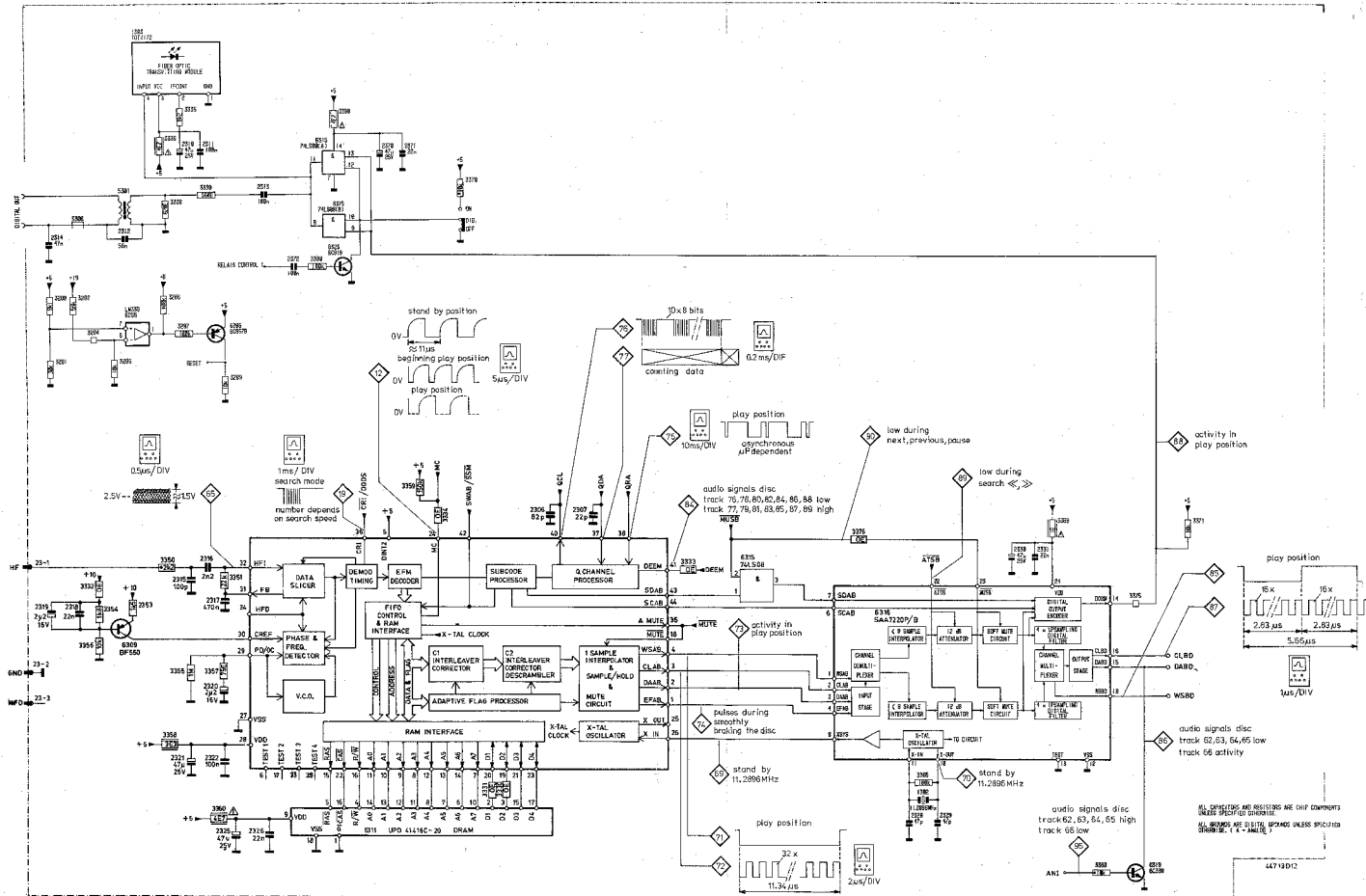


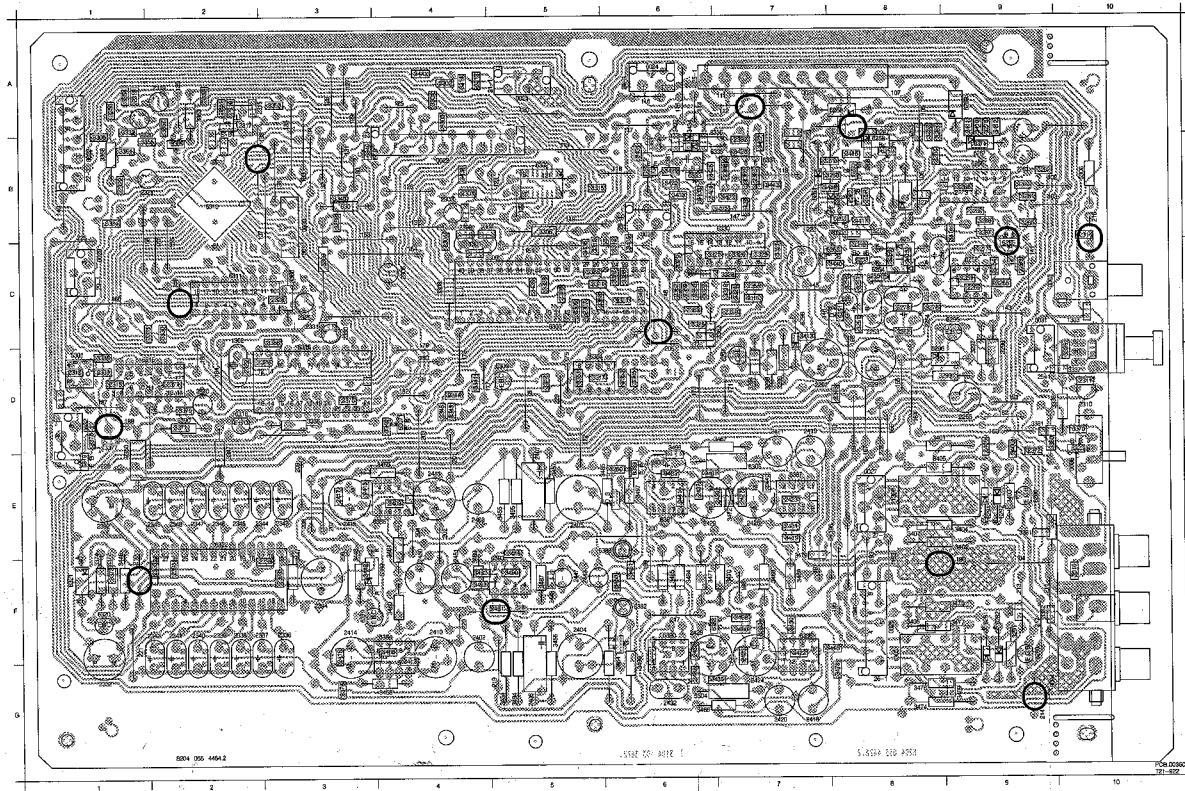
- 6
- 1 = $\uparrow$
 - 2 = S
 - 3 = D4
 - 4 = D3
 - 5 = D1
 - 6 = D2
 - 7 = G
 - 8 = LM
 - 9 = L0
 - 10 = LG
 - 11 = RAD +
 - 12 = RAD -
 - 13 = POC -
 - 14 = FOC +

SERVO PANEL

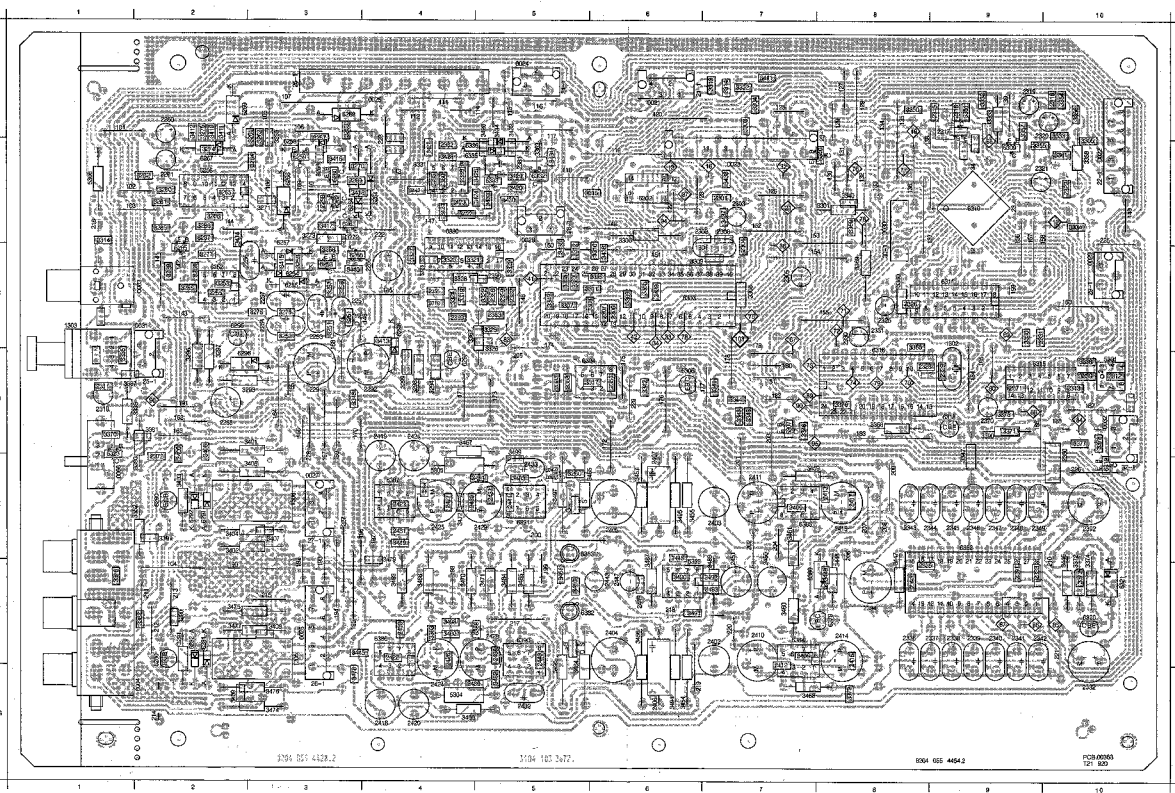


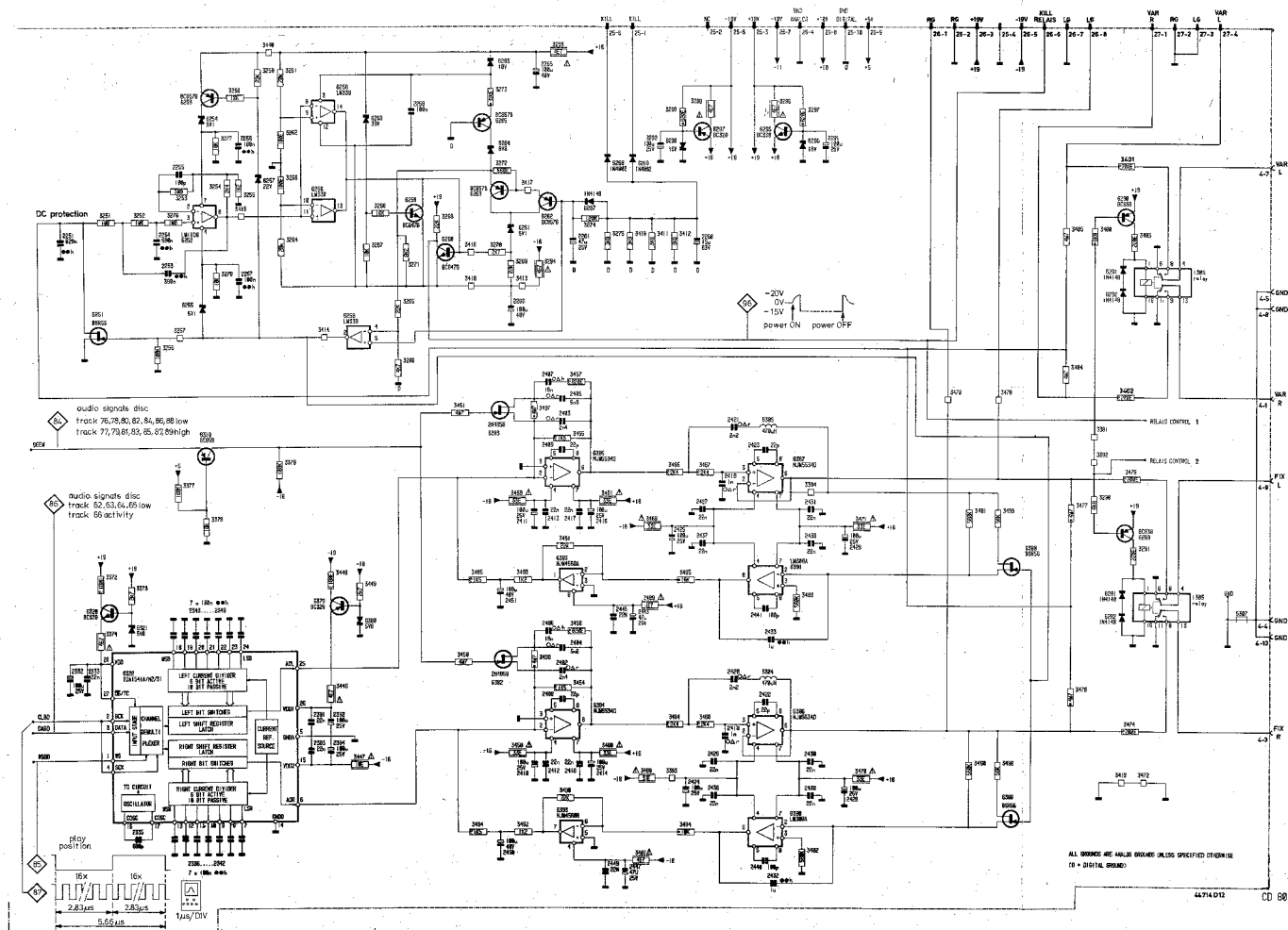
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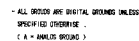


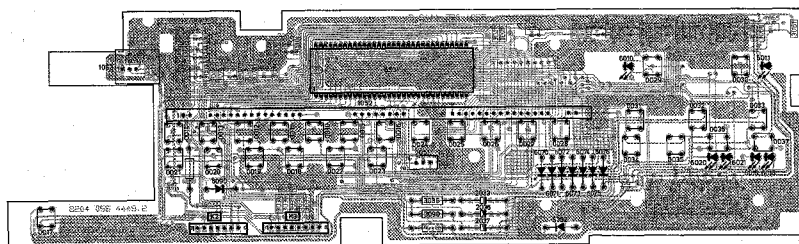
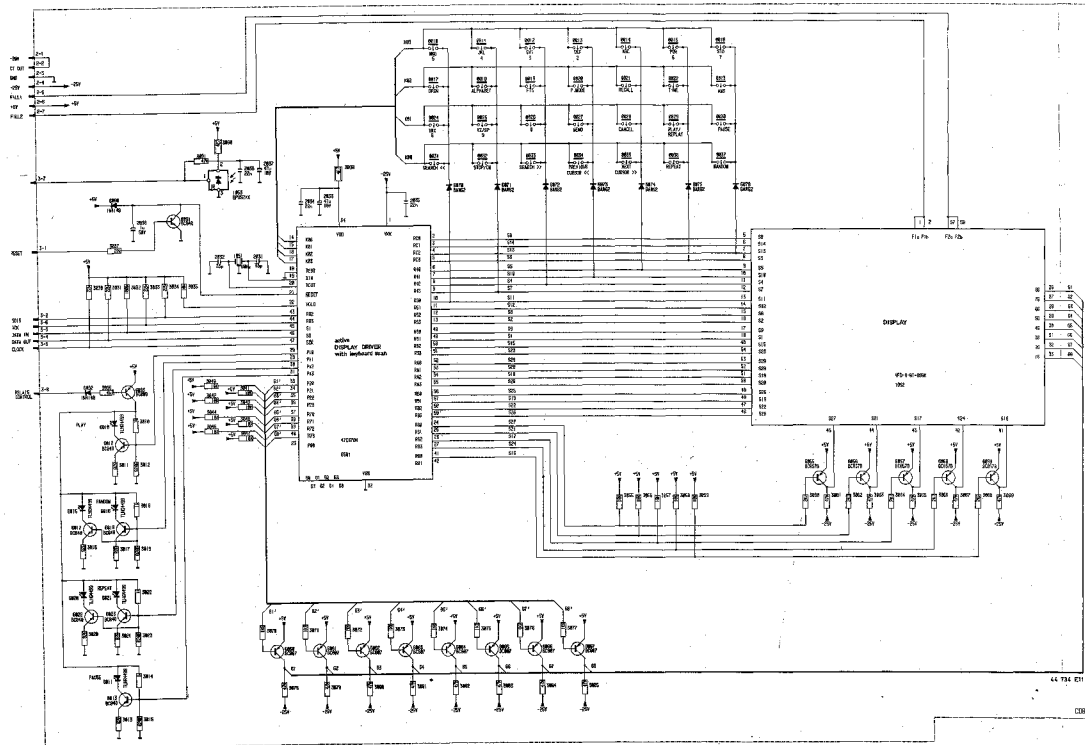


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PARTSLIST ELECTRICAL COMPONENTS & TOOLS

PARTSLIST ELECTRICAL COMPONENTS & TOOLS

—II—			
2031	4822 122 32444	33pF 5% 50V	
2032	4822 122 32444	33pF 5% 50V	
2033	4822 124 22027	47pF 20% 25V	
2034	4822 122 33147	22nF 20%	
2035	4822 122 33147	22nF 20%	
2036	4822 124 22028	1uF 20% 63V	
2037	4822 124 22027	47pF 20% 25V	
2038	4822 124 33064	330nF 20% 25V	
2084	4822 122 32064	330nF 20% 25V	
2085	4822 122 33104	100nF 10% 63V	
2086	4822 122 33104	100nF 10% 63V	
2101	4822 122 33147	22nF 20%	
2102	4822 124 41527	47uF 25V	
2103	4822 122 33147	22nF 20%	
2104	4822 122 31727	470pF 5% 63V	
2105	4822 124 41527	47uF 25V	
2106	4822 122 33104	100nF 10% 63V	
2107	4822 122 31644	2.2nF 10% 63V	
2108	5322 121 42491	47nF 5% 100V	
2109	4822 122 31772	47pF 5% 50V	
2110	4822 122 32442	10nF 50V	
2111	4822 122 31748	1000pF 5% 50V	
2112	4822 121 42439	47pF 20%	
2114	4822 121 51252	470nF 5% 100V	
2115	4822 122 31746	1000pF 5% 50V	
2120	4822 122 31965	220pF 5% 63V	
2121	4822 124 41527	47uF 25V	
2130	4822 121 51321	8.2mF 1% 63V	
2131	4822 121 51321	8.2mF 1% 63V	
2132	4822 124 40272	33uF 20% 16V	
2134	5322 122 31848	33nF 10% 63V	
2136	5322 122 31848	33nF 10% 63V	
2137	4822 121 42245	220nF 10% 63V	
2138	4822 121 42245	220nF 10% 63V	
2140	4822 124 41583	0.68uF 20% 50V	
2141	4822 122 33147	22nF 20%	
2142	4822 122 33147	22nF 20%	
2143	5322 122 31848	33nF 10% 63V	
2144	4822 124 40196	220uF 20% 16V	
2145	4822 122 33104	100nF 10% 63V	
2146	4822 122 33104	100nF 10% 63V	
2147	4822 122 33147	22nF 20%	
2151	5322 121 42491	47nF 5% 100V	
2160	4822 122 31784	4.7nF 10% 50V	
2161	4822 121 51252	470nF 5% 100V	
2162	5322 121 42661	330nF 5% 63V	
2163	4822 122 33104	100nF 10% 63V	
2170	4822 122 31765	100pF 5% 50V	
2251	4822 121 51436	820nF 10% 63V	
2253	4822 121 51393	390nF 10% 63V	
2254	4822 121 51412	560nF 10% 63V	
2255	4822 122 31765	100pF 5% 50V	
2256	5322 121 42396	100nF 5% 63V	
2257	4822 122 31765	100nF 5% 63V	
2258	4822 122 33104	100nF 10% 63V	
2280	4822 124 41714	15uF 20% 63V	
2261	4822 124 40433	47uF 20% 25V	
2265	5322 124 21189	100uF 20% 40V	
2266	5322 124 21189	100uF 20% 40V	
2291	4822 124 22473	100uF 20% 40V	
2292	4822 124 22473	100uF 20% 40V	
2301	4822 122 33147	22nF 20%	
2303	4822 124 40433	47uF 20% 25V	
2304	4822 122 33147	22nF 20%	
2305	4822 124 40246	4.7uF 20% 63V	
2306	4822 122 31839	82pF 10% 50V	
2307	4822 122 32482	22pF 5% 63V	
2308	4822 122 31772	47pF 5% 50V	
2309	4822 122 31772	47pF 5% 50V	
2310	4822 124 40433	47uF 20% 25V	
2311	4822 122 33104	100nF 10% 63V	
2312	4822 122 32183	56nF 10% 50V	
2313	4822 122 33104	100nF 10% 63V	
2314	4822 124 40433	47uF 20% 25V	
2315	4822 122 31772	47pF 5% 50V	
2316	4822 122 31644	2.2nF 10% 63V	
2317	5322 121 42979	470nF 5% 63V	
2318	4822 122 33147	22nF 20%	
2319	4822 124 40244	2.2uF 20% 63V	
2320	4822 124 40244	2.2uF 20% 63V	
2321	4822 124 40433	47uF 20% 25V	
2322	4822 122 33104	100nF 10% 63V	
2325	4822 124 40433	47uF 20% 25V	
2326	4822 122 33147	22nF 20%	
2328	4822 122 31772	47pF 5% 50V	
2329	4822 122 31772	47pF 5% 50V	
2330	4822 124 40433	47uF 20% 25V	
2331	4822 122 33147	22nF 20%	
2332	4822 122 33147	22nF 20%	
2333	4822 122 33147	22nF 20%	
2335	4822 122 31775	680pF 5% 50V	
2336	5322 121 42386	100nF 5% 63V	
2337	5322 121 42386	100nF 5% 63V	
2338	5322 121 42386	100nF 5% 63V	
2339	5322 121 42386	100nF 5% 63V	
2340	5322 121 42386	100nF 5% 63V	
2341	5322 121 42386	100nF 5% 63V	
2342	5322 121 42386	100nF 5% 63V	
2343	5322 121 42386	100nF 5% 63V	
2344	5322 121 42386	100nF 5% 63V	
2345	5322 121 42386	100nF 5% 63V	
2346	5322 121 42386	100nF 5% 63V	
2347	5322 121 42386	100nF 5% 63V	
2348	5322 121 42386	100nF 5% 63V	
2349	5322 121 42386	100nF 5% 63V	
2351	4822 122 33147	22nF 20%	
2352	4822 122 33147	22nF 20%	
2355	4822 122 33104	100nF 10% 63V	
2356	4822 122 33104	100nF 10% 63V	
2358	4822 122 33104	100nF 10% 63V	
2362	4822 122 33104	100nF 10% 63V	
2370	4822 124 40433	47uF 20% 25V	
2371	4822 122 33147	22nF 20%	
2372	4822 122 33104	100nF 10% 63V	
2380	4822 122 31759	18nF 10%	
2381	5322 121 42661	330nF 5% 63V	
2382	4822 122 31784	4.7nF 10% 50V	
2385	4822 122 33147	22nF 20%	
2386	4822 122 33147	22nF 20%	
2391	4822 122 33147	22nF 20%	
2392	4822 124 22473	100uF 20% 25V	
2393	4822 122 33147	22nF 20%	
2394	4822 124 22473	100uF 20% 25V	
2402	4822 121 51227	2.4nF 2% 160V	
2403	4822 121 51227	2.4nF 2% 160V	
2404	4822 121 51437	5.6nF 2% 160V	
2405	4822 121 51437	5.6nF 2% 160V	
2406	4822 121 51225	18nF 2% 63V	
2407	4822 121 51225	18nF 2% 63V	
2408	4822 122 32482	22pF 5% 63V	
2409	4822 122 32482	22pF 5% 63V	
2410	4822 124 22473	100uF 20% 25V	
2411	4822 124 22473	100uF 20% 25V	

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2412	4822 122 33147	22nF 20%	
2413	4822 122 33147	22nF 20%	
2414	4822 124 22473	100uF 20% 25V	
2415	4822 124 22473	100uF 20% 25V	
2416	4822 122 33147	22nF 20%	
2417	4822 122 33147	22nF 20%	
2418	4822 121 51135	1nF 2% 160V	
2419	4822 121 51135	1nF 2% 160V	
2420	4822 121 51126	2.2nF 2% 10V	
2421	4822 121 51126	2.2nF 2% 10V	
2422	4822 122 32482	22pF 5% 63V	
2423	4822 122 32482	22pF 5% 63V	
2424	4822 124 22473	100uF 20% 25V	
2425	4822 124 22473	100uF 20% 25V	
2426	4822 122 33147	22nF 20%	
2427	4822 122 33147	22nF 20%	
2428	4822 124 22473	100uF 20% 25V	
2429	4822 124 22473	100uF 20% 25V	
2430	4822 122 33147	22nF 20%	
2431	4822 122 33147	22nF 20%	
2432	5322 121 42114	1uF 5% 63V	
2433	5322 121 42114	1uF 5% 63V	
2435	4822 122 33147	22nF 20%	
2437	4822 122 33147	22nF 20%	
2438	4822 122 33147	22nF 20%	
2439	4822 122 33147	22nF 20%	
2440	4822 122 31765	100pF 5% 50V	
2441	4822 122 31765	100pF 5% 50V	
2443	4822 124 40433	47uF 20% 25V	
2445	4822 122 33147	22nF 20%	
2447	4822 124 40433	47uF 20% 25V	
2449	4822 122 33147	22nF 20%	
2450	5322 124 21189	100uF 20% 40V	
2451	5322 124 21189	100uF 20% 40V	
2503	4822 124 41184	470uF 20% 50V	
2504	4822 122 40327	3.3nF 20% 400V	
2506	4822 124 40741	22uF 20% 40V	
2507	4822 124 40433	47uF 20% 25V	
2512	4822 124 21511	220uF 20% 25V	
2513	4822 124 21511	220uF 20% 25V	
2518	4822 124 40433	47uF 20% 25V	
2519	4822 124 40433	47uF 20% 25V	
2524	4822 124 41727	1000uF 20% 16V	
2525	4822 124 41725	470uF 20% 16V	
2530	4822 124 40433	47uF 20% 25V	
2531	4822 124 40433	47uF 20% 25V	
2536	4822 124 41726	680uF 20% 35V	
2537	4822 124 40433	47uF 20% 25V	
2540	4822 124 22473	100uF 20% 25V	
2541	4822 124 41726	680uF 20% 35V	
2542	4822 124 40433	47uF 20% 25V	
2545	4822 124 22473	100uF 20% 25V	
2550	5322 124 21711	100uF 20% 25V	
2551	5322 124 21711	100uF 20% 25V	
2591	5322 124 21189	100uF 20% 40V	
2802	5322 124 21189	100uF 20% 40V	
□			
3010	5322 111 90092	1k 2% 0.125W	
3011	4822 111 90124	82Q 2% 0.125W	
3012	4822 111 90366	620Q 2% 0.125W	
3013	4822 111 90124	82Q 2% 0.125W	
3014	5322 111 90092	1k 2% 0.125W	
3015	4822 111 90366	620Q 2% 0.125W	
3016	4822 111 90124	82Q 2% 0.125W	
3017	4822 111 90124	82Q 2% 0.125W	
3018	5322 111 90092	1k 2% 0.125W	
3019	4822 111 90366	620Q 2% 0.125W	
3020	4822 111 90124	82Q 2% 0.125W	
3021	4822 111 90124	82Q 2% 0.125W	
3022	5322 111 90092	1k 2% 0.125W	
3023	4822 111 90366	620Q 2% 0.125W	
3030	4822 111 90251	22k 2% 0.125W	
3031	4822 111 90251	22k 2% 0.125W	
3032	4822 111 90214	100k 2% 0.125W	
3033	4822 111 90251	22k 2% 0.125W	
3034	4822 111 90251	22k 2% 0.125W	
3035	4822 111 90249	10k 2% 0.125W	
3036	4822 111 30499	407 5% 0.33W	
3037	4822 111 90251	22k 2% 0.125W	
3040	4822 111 90249	10k 2% 0.125W	
3041	4822 111 90249	10k 2% 0.125W	
3042	4822 111 90249	10k 2% 0.125W	
3043	4822 111 90249	10k 2% 0.125W	
3044	4822 111 90249	10k 2% 0.125W	
3045	4822 111 90249	10k 2% 0.125W	
3046	4822 111 90249	10k 2% 0.125W	
3047	4822 111 90249	10k 2% 0.125W	
3055	4822 111 90249	10k 2% 0.125W	
3056	4822 111 90249	10k 2% 0.125W	
3057	4822 111 90249	10k 2% 0.125W	
3058	4822 111 90249	10k 2% 0.125W	
3059	4822 111 90249	10k 2% 0.125W	
3060	4822 111 90248	2k2 2% 0.125W	
3061	4822 111 90543	47k 2% 0.125W	
3062	4822 111 90248	2k2 2% 0.125W	
3063	4822 111 90543	47k 2% 0.125W	
3064	4822 111 90248	2k2 2% 0.125W	
3065	4822 111 90543	47k 2% 0.125W	
3066	4822 111 90248	2k2 2% 0.125W	
3067	4822 111 90543	47k 2% 0.125W	
3068	4822 111 90248	2k2 2% 0.125W	
3069	4822 111 90543	47k 2% 0.125W	
3070	5322 111 90101	1k8 2% 0.125W	
3071	5322 111 90101	1k8 2% 0.125W	
3072	5322 111 90101	1k8 2% 0.125W	
3073	5322 111 90101	1k8 2% 0.125W	
3074	5322 111 90101	1k8 2% 0.125W	
3075	5322 111 90101	1k8 2% 0.125W	
3076	5322 111 90101	1k8 2% 0.125W	
3077	5322 111 90101	1k8 2% 0.125W	
3078	4822 111 90543	47k 2% 0.125W	
3079	4822 111 90543	47k 2% 0.125W	
3080	4822 111 90543	47k 2% 0.125W	
3081	4822 111 90543	47k 2% 0.125W	
3082	4822 111 90543	47k 2% 0.125W	
3083	4822 111 90543	47k 2% 0.125W	
3084	4822 111 90543	47k 2% 0.125W	
3085	4822 111 90543	47k 2% 0.125W	
3086	4822 111 90349	5k2 2% 0.33W	
3091	4822 111 90543	47k 2% 0.125W	
3095	5322 111 90111	4k7 5% 0.5W	
3101	4822 116 52426	4k7 5% 0.5W	
3102	4822 111 90214	100k 2% 0.125W	
3103	4822 111 30499	407 5% 0.33W	
3104	4822 111 30499	407 5% 0.33W	
3105	4822 116 52393	12k 2% 0.125W	
3106	4822 116 52959	100Q 5% 0.5W	
3107	4822 111 90248	2k2 2% 0.125W	
3108	4822 111 90512	5k2 2% 0.125W	
3109	4822 111 90572	5k2 2% 0.125W	
3110	4822 111 90249	10k 2% 0.125W	
3111	5322 111 90092	1k 2% 0.125W	

PARTSLIST ELECTRICAL COMPONENTS & TOOLS

	3120	4822 101 10685	4K7 20% LIN 0,05W
	3121	4822 111 90178	220Q 2% 0,125W
	3122	4822 111 30515	18Q 5% 0,33W
	3123	4822 111 30511	12Q 5% 0,33W
	3124	5322 111 90091	100Q 2% 0,125W
	3130	4822 111 90543	47K 2% 0,125W
	3131	4822 111 90344	15KQ 2%
	3133	5322 111 90388	15K 2% 0,125W
	3134	4822 111 90197	22K 2% 0,125W
	3135	4822 116 53081	12K 1% 0,6W
	3140	4822 116 52858	4Q7 1% 0,6W
	3141	4822 111 90544	6K8 2% 0,125W
	3142	4822 111 90124	82Q 2% 0,125W
	3143	4822 116 52441	6K8 5% 0,5W
	3144	4822 111 30483	1Q 5% 0,33W
	3145	4822 111 30483	1Q 5% 0,33W
	3150	5322 111 90101	1K8 2% 0,125W
	3155	4822 111 90238	18KQ 2%
	3156	4822 116 52509	220K 5% 0,5W
	3160	4822 111 91494	11KQ 2%
	3161	4822 116 90417	150KQ 2%
	3182	4822 116 52845	120K 1% 0,6W
	3163	4822 111 90163	50K 2% 0,125W
	3164	4822 111 91495	160KQ 2%
	3165	4822 116 52354	27Q 5% 0,5W
	3166	4822 111 90186	22Q 2% 0,125W
	3167	4822 111 90575	82K 2% 0,125W
	3168	4822 116 52857	470K 5% 0,5W
	3169	4822 100 20522	22K 20% LIN 0,05W
	3201	4822 111 90163	jumper
	3202	4822 111 90163	jumper
	3251	5322 111 90094	1M 5% 0,125W
	3252	5322 111 90094	1M 5% 0,125W
	3253	4822 111 90421	3M9 5% 0,125W
	3254	4822 116 90271	2,4KQ 2%
	3255	4822 116 90418	1,2KQ 2%
	3256	4822 111 90214	100K 2% 0,125W
	3257	4822 111 90163	jumper
	3258	4822 111 90249	10K 2% 0,125W
	3259	4822 111 90251	22K 2% 0,125W
	3261	4822 116 90746	20K 1% 0,125W
	3262	5322 116 90091	100Q 2%
	3263	5322 116 90091	100Q 2%
	3264	4822 116 90746	20K 1% 0,125W
	3265	4822 111 90251	22K 2% 0,125W
	3266	4822 111 90543	47K 2% 0,125W
	3267	4822 111 90163	jumper
	3268	4822 111 90249	10K 2% 0,125W
	3269	4822 111 90251	22K 2% 0,125W
	3270	4822 111 90569	2K7 2% 0,125W
	3271	5322 111 90118	8K2 2% 0,125W
	3272	4822 111 90169	560K 2% 0,125W
	3273	4822 116 52421	390Q 5% 0,5W
	3274	4822 111 90568	12K 2% 0,125W
	3275	4822 111 90571	3K3 2% 0,125W
	3276	5322 111 90094	1M 5% 0,125W
	3277	4822 111 90249	10K 2% 0,125W
	3278	4822 111 90249	10K 2% 0,125W
	3280	4822 111 90373	9,1KQ 2%
	3281	4822 111 90216	30K 2% 0,125W
	3282	4822 111 90573	56K 2% 0,125W
	3283	4822 111 90251	22K 2% 0,125W
	3284	4822 116 52168	jumper
	3285	4822 111 90249	10K 2% 0,125W
	3286	4822 111 90214	100K 2% 0,125W
	3287	4822 111 90214	100K 2% 0,125W
	3289	4822 111 90249	10K 2% 0,125W
	3290	4822 111 90544	6K8 2% 0,125W
	3291	4822 116 52407	220Q 5% 0,5W
	3293	4822 111 30499	4Q7 5% 0,33W
	3294	4822 111 30499	4Q7 5% 0,33W
	3296	4822 111 30499	4Q7 5% 0,33W
	3297	4822 116 52429	620Q 5% 0,5W
	3298	4822 111 30499	4Q7 5% 0,33W
	3299	4822 116 52429	620Q 5% 0,5W
	3301	4822 111 90251	22K 2% 0,125W
	3302	4822 111 90251	22K 2% 0,125W
	3303	4822 111 90251	22K 2% 0,125W
	3304	4822 111 90251	22K 2% 0,125W
	3305	4822 111 90251	22K 2% 0,125W
	3306	4822 111 30499	4Q7 5% 0,33W
	3307	4822 111 90251	22K 2% 0,125W
	3308	4822 111 90251	22K 2% 0,125W
	3309	4822 111 90197	220K 2% 0,125W
	3310	4822 111 90251	22K 2% 0,125W
	3311	4822 111 90251	22K 2% 0,125W
	3312	4822 111 90251	22K 2% 0,125W
	3313	4822 111 90251	22K 2% 0,125W
	3314	4822 111 90251	22K 2% 0,125W
	3315	5322 111 90111	4K7 2% 0,125W
	3316	4822 111 90249	10K 2% 0,125W
	3317	4822 111 90251	22K 2% 0,125W
	3319	4822 111 90248	2K2 2% 0,125W
	3320	4822 111 90249	10K 2% 0,125W
	3321	4822 111 90249	10K 2% 0,125W
	3322	4822 111 90186	22Q 2% 0,125W
	3323	4822 111 90249	10K 2% 0,125W
	3324	4822 111 90249	10K 2% 0,125W
	3325	4822 111 90163	jumper
	3326	5322 111 90111	4K7 2% 0,125W
	3327	4822 111 90249	10K 2% 0,125W
	3328	4822 111 90249	10K 2% 0,125W
	3329	4822 111 90186	22Q 2% 0,125W
	3330	4822 111 90163	jumper
	3331	4822 111 90163	jumper
	3332	4822 111 90163	jumper
	3333	4822 111 90163	jumper
	3334	4822 111 90163	jumper
	3335	5322 111 90118	8K2 2% 0,125W
	3336	4822 111 30499	4Q7 5% 0,33W
	3338	4822 111 90366	620Q 2% 0,125W
	3339	5322 111 90113	560Q 2% 0,125W
	3340	4822 111 90251	22K 2% 0,125W
	3341	4822 111 90249	10K 2% 0,125W
	3342	4822 111 90249	10K 2% 0,125W
	3343	4822 111 90248	2K2 2% 0,125W
	3344	4822 111 90543	47K 2% 0,125W
	3345	4822 111 90238	180K 5% 0,25W
	3346	4822 111 90238	180K 5% 0,25W
	3350	4822 111 90248	2K2 2% 0,125W
	3351	4822 111 90251	22K 2% 0,125W
	3352	5322 111 90092	1K 2% 0,125W
	3353	4822 116 52399	1K5 5% 0,5W
	3354	5322 111 90101	1K8 2% 0,125W
	3356	4822 111 90249	10K 2% 0,125W
	3357	4822 116 52377	75Q 5% 0,5W
	3358	4822 111 30593	3Q3 5% 0,33W
	3359	5322 111 90099	150K 2% 0,125W
	3360	4822 111 30499	4Q7 5% 0,33W
	3362	4822 116 52398	180K 1% 0,6W
	3363	4822 111 30483	1Q 5% 0,33W
	3364	4822 111 90543	47K 2% 0,125W
	3365	4822 111 90161	470K 2% 0,125W
	3366	4822 111 90214	100K 2% 0,125W

PARTSLIST ELECTRICAL COMPONENTS & TOOLS

	3368	4822 116 52452	10K 5% 0,5W
	3369	4822 111 30483	1Q 5% 0,33W
	3370	4822 116 52452	10K 5% 0,5W
	3371	4822 111 90249	10K 2% 0,125W
	3372	5322 116 53285	180Q 1% 0,6W
	3373	4822 111 90569	2K7 2% 0,125W
	3374	4822 111 30499	4Q7 5% 0,33W
	3375	4822 111 90163	jumper
	3376	4822 111 90163	jumper
	3377	4822 111 90214	100K 2% 0,125W
	3378	4822 111 90249	10K 2% 0,125W
	3379	4822 111 90214	100K 2% 0,125W
	3380	4822 116 52453	100K 5% 0,5W
	3381	4822 111 90163	jumper
	3382	4822 111 90163	jumper
	3383	4822 111 90163	jumper
	3384	4822 111 90163	jumper
	3385	4822 111 90163	jumper
	3386	4822 111 90163	jumper
	3387	4822 111 90163	jumper
	3390	4822 111 30499	4Q7 5% 0,33W
	3400	4822 111 90544	6K8 2% 0,125W
	3401	5322 116 53731	200Q 1% 0,6W
	3402	5322 116 53731	200Q 1% 0,6W
	3403	4822 116 52407	220Q 5% 0,5W
	3404	4822 116 52528	4M7 5% 0,5W
	3405	4822 116 52528	4M7 5% 0,5W
	3410	4822 111 90571	3K9 2% 0,125W
	3411	4822 111 90571	3K9 2% 0,125W
	3412	4822 111 90571	3K9 2% 0,125W
	3413	4822 111 90163	jumper
	3414	4822 111 90163	jumper
	3415	4822 111 90163	jumper
	3416	4822 111 90163	jumper
	3417	4822 111 90163	jumper
	3418	4822 111 90163	jumper
	3419	4822 111 90163	jumper
	3420	5322 111 90111	4K7 2% 0,125W
	3421	4822 111 90543	47K 2% 0,125W
	3422	4822 111 90214	100K 2% 0,125W
	3423	5322 111 90277	91K 2% 0,125W
	3424	4822 111 90157	3K3 2% 0,125W
	3425	4822 111 90572	5K6 2% 0,125W
	3426	4822 111 90568	120K 2% 0,125W
	3427	4822 111 90543	47K 2% 0,125W
	3428	4822 111 90568	120K 2% 0,125W
	3429	5322 111 90111	4K7 2% 0,125W
	3430	4822 111 90196	15K 2% 0,125W
	3431	5322 111 90267	33K 2% 0,125W
	3432	4822 111 90302	270K 2% 0,125W
	3433	5322 111 90096	1K2 2% 0,125W
	3435	4822 111 90163	jumper
	3436	4822 111 90163	jumper
	3437	4822 111 90163	jumper
	3438	4822 111 90163	jumper
	3439	4822 111 90163	jumper
	3440	4822 111 90163	jumper
	3441	4822 111 90163	jumper
	3442	4822 111 90163	jumper
	3443	4822 111 90163	jumper
	3446	4822 111 30499	4Q7 5% 0,33W
	3447	4822 111 30508	10Q 5% 0,33W
	3448	5322 116 53285	180Q 1% 0,6W
	3449	4822 111 90569	2K7 2% 0,125W
	3450	4822 111 90423	4M7 5% 0,125W
	3451	4822 111 90423	4M7 5% 0,125W
	3454	5322 116 53478	1K5 1% 0,6W
	3455	5322 116 53478	1K5 1% 0,6W
	3456	4822 116 52864	820Q 1% 0,6W
	3457	4822 116 52864	820Q 1% 0,6W
	3458	4822 111 30522	33Q 5% 0,33W
	3459	4822 111 30522	33Q 5% 0,33W
	3460	4822 111 30522	33Q 5% 0,33W
	3461	4822 111 30522	33Q 5% 0,33W
	3464	4822 116 52851	2K4 1% 0,6W
	3465	4822 116 52851	2K4 1% 0,6W
	3466	4822 116 52851	2K4 1% 0,6W
	3467	4822 116 52851	2K4 1% 0,6W
	3468	4822 111 30522	33Q 5% 0,33W
	3469	4822 111 30522	33Q 5% 0,33W
	3470	4822 111 30522	33Q 5% 0,33W
	3471	4822 111 30522	33Q 5% 0,33W
	3472	4822 111 90163	jumper
	3474	5322 116 53731	200Q 1% 0,6W
	3475	5322 116 53731	200Q 1% 0,6W
	3476	4822 116 52528	4M7 5% 0,5W
	3477	4822 116 52528	4M7 5% 0,5W
	3478	4822 111 90163	jumper
	3479	4822 111 90163	jumper
	3480	4822 111 90169	560KQ 2%
	3481	4822 111 90169	560KQ 2%
	3482	4822 111 90169	560KQ 2%
	3483	4822 111 90169	560KQ 2%
	3484	4822 116 52452	10K 5% 0,5W
	3485	4822 116 52452	10K 5% 0,5W
	3487	4822 111 30499	4Q7 5% 0,33W
	3489	4822 111 30499	4Q7 5% 0,33W
	3490	4822 111 90251	22K 2% 0,125W
	3491	4822 111 90251	22K 2% 0,125W
	3492	4822 116 90418	1,2KQ 2%
	3493	4822 116 90418	1,2KQ 2%
	3494	5322 116 53478	1K5 1% 0,6W
	3495	5322 116 53478	1K5 1% 0,6W
	3496	4822 116 52528	33Q 5% 0,33W
	3801	4822 111 90249	10K 2% 0,125W
	3802	4822 111 90249	10K 2% 0,125W
	3803	4822 111 90216	30K 2% 0,125W
	3804	4822 111 90216	30K 2% 0,125W
	3805	4822 111 90249	10K 2% 0,125W
	3806	4822 111 90249	10K 2% 0,125W
	3807	4822 111 90216	30K 2% 0,125W
	3808	4822 111 90216	30K 2% 0,125W
	3809	4822 111 30526	47Q 5% 0,33W
	3811	4822 111 30526	47Q 5% 0,33W
	3813	4822 111 90156	300Q 2%
	3814	4822 111 90156	300Q 2%
	3815	4822 111 90156	300Q 2%
	3816	4822 111 90156	300Q 2%
	3820	4822 111 90544	8KQ 2% 0,125W
	3821	4822 116 52047	22Q 5% 0,5W



6010	4822 130 80848	TLHG4499
6011	4822 130 80848	TLHR4499
6012	4822 130 61207	BCB48
6013	4822 130 61207	BCB48
6015	4822 130 80848	TLHG4499
6016	4822 130 80848	TLHG4499
6017	4822 130 61207	BCB48
6018	4822 130 61207	BCB48
6020	4822 130 80848	TLHG4499
6021	4822 130 80848	TLHG4499

PARTSLIST ELECTRICAL COMPONENTS & TOOLS

							
6022	4822 130 61207	BC848		6304	4822 209 60772	X24C16	
6023	4822 130 61207	BC848		6306	4822 130 44197	BC558B	
6051	4822 209 60771	TMP47C670N-1361		6307	4822 130 61207	BC848	
6055	5322 130 60508	BC857B		6309	4822 130 42131	BF550	
6056	5322 130 60508	BC857B		6310	4822 209 60775	SAA7310GP/05	
6057	5322 130 60508	BC857B		6311	4822 209 70422	MN4284-15	
6058	5322 130 60508	BC857B		6312	4822 130 61207	BC848	
6059	5322 130 60508	BC857B		6313	4822 130 61207	BC848	
6060	4822 130 42132	BC807		6315	5322 209 81626	INT4LS08N (MTLA)	
6061	4822 130 42132	BC807		6316	4822 209 72545	SAA7220	
6062	4822 130 42132	BC807		6318	4822 130 44121	BC338	
6063	4822 130 42132	BC807		6319	5322 130 42012	BC858	
6064	4822 130 42132	BC807		6320	4822 130 44121	BC338	
6065	4822 130 42132	BC807		6321	4822 130 34173	BZX55-F5V6	
6066	4822 130 42132	BC807		6322	4822 209 72969	TD1541	
6067	4822 130 42132	BC807		6323	4822 130 42675	BC818	
6070	4822 130 30613	BAW62		6330	4822 209 72587	TC40372DP2	
6071	4822 130 30613	BAW62		6331	4822 209 83274	NJM4560D	
6072	4822 130 30613	BAW62		6332	5322 130 42012	BC858	
6073	4822 130 30613	BAW62		6333	5322 130 42012	BC858	
6074	4822 130 30613	BAW62		6335	4822 130 31983	BAT85	
6075	4822 130 30613	BAW62		6336	4822 130 31983	BAT85	
6076	4822 130 30613	BAW62		6340	4822 130 61207	BC848	
6083	4822 130 40854	BC327		6372	4822 130 44104	BC328	
6085	4822 130 40854	BC327		6380	4822 130 34173	BZX55-F5V6	
6090	4822 130 30621	1N4148 (FSC)		6382	4822 130 60933	2N4859	
6091	4822 130 61207	BC848		6383	4822 130 60933	2N4859	
6092	4822 130 30621	1N4148 (FSC)		6384	4822 209 70226	NJM5534D	
6093	5322 130 41979	BC808		6385	4822 209 70226	NJM5534D	
6101	4822 209 73234	TD48808T/C3		6386	4822 209 70226	NJM5534D	
6102	4822 130 44121	BC338		6387	4822 209 70226	NJM5534D	
6103	4822 209 73235	TD48808T/C2		6388	4822 130 42633	BSR56	
6104	4822 209 72587	TC40372DP2		6389	4822 130 42633	BSR56	
6105	4822 130 81101	BZX55-C7V5		6390	5322 209 86056	LM308AN	
6106	4822 130 81101	BZX55-C7V5		6391	5322 209 86056	LM308AN	
6251	4822 130 42633	BSR56		6393	4822 209 83274	NJM4560D	
6252	4822 209 60278	LM111CN		6501	4822 130 31164	1N5060	
6253	5322 130 60508	BC857B		6502	4822 130 31164	1N5060	
6254	4822 130 60512	BZX55-C5V1		6503	5322 130 41899	MC7915CT	
6255	4822 130 60512	BZX55-C5V1		6504	4822 130 34297	BZX55-C10	
6256	4822 209 80631	LM339N (MTLA)		6505	4822 130 40823	BD135	
6257	4822 130 34441	BZX55-C22		6506	4822 130 34174	BZX55-C4V7	
6258	4822 130 34145	BZX55-C39		6508	4822 130 31164	1N5060	
6259	4822 130 60511	BC847B		6509	4822 130 31164	1N5060	
6260	4822 130 60511	BC847B		6510	4822 130 31164	1N5060	
6261	4822 130 80512	BZX55-C5V1		6511	4822 130 31164	1N5060	
6262	5322 130 60508	BC857B		6512	4822 209 72554	MC7908CT	
6263	5322 130 60508	BC857B		6513	4822 130 31253	BZX55-C2V4	
6264	4822 130 34278	BZX55-F6V8		6514	5322 130 31504	BZX55-C3V3	
6265	5322 130 60508	BC857B		6515	4822 209 82112	MC7908CT	
6266	4822 130 34297	BZX55-C10		6518	4822 130 31164	1N5060	
6267	4822 130 30621	1N4148 (FSC)		6519	4822 130 31164	1N5060	
6268	5322 130 30684	1N4002		6520	4822 130 31164	1N5060	
6269	5322 130 30684	1N4002		6521	4822 130 31164	1N5060	
6280	4822 130 41087	BC638		6522	4822 209 71570	TY40408	
6281	4822 130 30621	1N4148 (FSC)		6525	5322 209 11222	MC7905CT	
6282	4822 130 30621	1N4148 (FSC)		6525	4822 130 31164	1N5060	
6285	5322 130 60508	BC857B		6526	4822 130 31164	1N5060	
6290	4822 130 41087	BC638		6527	4822 130 31164	1N5060	
6291	4822 130 30621	1N4148 (FSC)		6528	4822 130 31164	1N5060	
6292	4822 130 30621	1N4148 (FSC)		6529	4822 130 30879	BA314	
6295	4822 130 44121	BC338		6530	4822 130 30879	BA314	
6296	4822 130 34268	BZX55-C16		6531	4822 130 44568	BC557B	
6297	4822 130 44104	BC338		6532	4822 130 31024	BZX55-C18	
6298	4822 130 34268	BZX55-C16		6533	4822 130 60935	BD948F	
6302	5322 209 60299	PC74HCT00T		6534	4822 130 40981	BC337-25	
6303	4822 209 60773	MC68HC05C9P/7781		6535	4822 130 44196	BC548C	

PARTSLIST ELECTRICAL COMPONENTS & TOOLS

			
6536	4822 130 32698	BZX55-F6V2	
6537	4822 130 30621	1N4148 (FSC)	
6538	4822 130 30879	BA314	
6539	4822 130 30879	BA314	
6540	4822 130 40959	BC547B	
6541	4822 130 32698	BZX55-F6V2	
6542	4822 130 44197	BC558B	
6543	4822 130 41246	BC327-25	
6544	4822 130 60934	BD947E	
6545	4822 130 31024	BZX55-C18	
6546	4822 130 30621	1N4148 (FSC)	
6550	5322 209 86234	NE5532N	
6801	5322 209 86234	NE5532N	
6802	5322 209 86234	NE5532N	
6803	4822 130 41087	BC638	
6804	4822 130 30621	1N4148 (FSC)	
6805	4822 130 30621	1N4148 (FSC)	
MISCELLANEOUS			
1010	4822 253 30021	FUSE 1A 250V D	
1051	4822 242 71508	CERAMIC FILTER 6MHz	
1052	4822 130 90684	FTD FOR CD80	
1053	4822 214 51772	RECEIVER	
1301	4822 242 70831	CERAMIC FILTER 4MHz	
1302	4822 242 71349	X-TAL 11,289 600 MHz	
1303	4822 218 20752	TRANSMITTER TOTX172	
1305	4822 280 70362	RELAY G2VN237P-12VDC	
1306	4822 280 70362	RELAY G2VN237P-12VDC	
1701	4822 134 40945	LAMP 12V 100mA	
1702	4822 134 40945	LAMP 12V 100mA	
1703	4822 134 40945	LAMP 12V 100mA	
1801	4822 280 70362	RELAY G2VN237P-12VDC	
5001	4822 146 30783	MAINSTRANSFORMER	
5301	4822 148 80281	TRANSFORMER DIG. OUT	
5304	4822 157 53141	COIL 470uH	
5305	4822 157 53141	COIL 470uH	
5306	4822 528 10433	BEAD	
5307	4822 528 10433	BEAD	
4822 102 10398		HEADPHONE	
		POTENTIOMETER	
4822 256 30403		FUSE HOLDER	
4822 265 20374		SOCKET DIG OUT	
4822 265 30598		SOCKET RC, AUDIO OUT	
4822 267 31065		SOCKET HEADPHONE BOARD	
4822 276 11309		SWITCH SUPPLY BOARD	
4822 276 12339		SWITCH DIG ON/OFF	
4822 276 12465		SWITCH C&D BOARD	
4822 492 63076		CLAMPING SPRING SUPPLY BOARD	